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ABSTRACT

Critics of divergent thinking tests have argued that these tests only tap more conventional expressions of intelligence, such as the intelligence quotient. This study was undertaken to examine the relationship between divergent thinking and scores on the Kaufman Assessment Battery for Children (KABC), a measure which assesses sequential processing skill, simultaneous processing skill, and achievement. Students (N=73) in grades four, five, and six of a small private school were given six tests from the KABC and the Instances, Uses, and Line Meanings tests from the Wallach and Kogan battery. Tests were scored for ideational fluency and ideational originality. Data analysis revealed little indication of a relationship between divergent thinking and KABC performance. This supports the discriminant validity of the divergent thinking tests and suggests that the two assessment techniques tap different cognitive abilities. The lack of an association between divergent thinking and achievement scales scores suggests that information per se is not necessary for performance on divergent thinking tests.
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IDEATIONAL CREATIVITY AND PERFORMANCE ON
THE KAUFMAN ASSESSMENT BATTERY FOR CHILDREN (KABC)

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One of the long standing concerns about divergent thinking tests is that of their "discriminant validity," or relationship with other expressions of intellectual ability. Critics of divergent thinking tests have argued that these tests only tap more conventional expressions of intelligence, like the IQ. This issue is complicated by the possibility that the relationship between divergent thinking and intelligence is curvilinear, and varies in strength at different levels of ability.

The purpose of the present investigation was to examine the relationship between divergent thinking and the scores from the KABC. The Kaufman Assessment Battery for Children (KABC) is a relatively new measure which assesses Sequential Processing Skill, Simultaneous Processing Skill, and Achievement.

Note: Presented at the meeting of the Western and Rocky Mountain Psychological Associations in Reno, Nevada, April 1989.

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Based on the rationale given in the KABC literature, our hypothesis was that divergent thinking would be most strongly related with Simultaneous Processing scores, and unrelated to Sequential Processing scores. If divergent thinking is unrelated to the Sequential Processing and Achievement test scores from the KABC, it will support the discriminant validity of divergent thinking tests.

Method

Subjects

Seventy three children from the 4th, 5th, and 6th grades of a small private school participated in this project. Boys and girls were fairly equally represented.

Tests and Procedure

The children were given six tests from the KABC according to standard administration procedures. They received the Instances, Uses, and Line Meanings tests from the Wallach and Kogan (1965) battery while in their classrooms. These tests were scored for ideational fluency (the number of ideas) and ideational originality (the number of unique ideas).

Results

Table 1 presents means and standard deviations for each measure. Table 2 presents the product moment correlations among the various measures.

A canonical correlation indicated that the KABC scores were unrelated to the divergent thinking test scores ($R_c = .42$).

Multiple regression analyses were conducted using the KABC scores as predictors. Curvilinear trends were examined in these analyses by entering the square of each predictor. Results indicated that there were no linear or curvilinear trends.

Discussion

There was little indication of a relationship between divergent thinking and KABC performance. This supports the discriminant validity of the divergent thinking tests, and suggests that the two assessment techniques do in fact tap different cognitive abilities. The lack of an association between divergent thinking and Achievement scales scores is informative, for it suggests that information per se is not

necessary for performance on divergent thinking tests. In other words, these tests probably do not have the experiential bias that many believe tests of the IQ have.

The hypothesis that the Simultaneous Processing scale scores would be more strongly related to divergent thinking than the Sequential Processing scale scores was rejected.

In fact, the only two statistically significant correlation coefficients were with Sequential Processing scale scores from Hand Movements (see Table 2).

Surprisingly, there were no curvilinear trends in the regression results. This was unexpected because most students of creativity assume that there is a curvilinear relationship between divergent and convergent thinking. This is the "threshold hypothesis" in which a certain level of ability (IQ, or convergent thinking) is ostensibly necessary for creative performance. Torrance (1962) and Barron (1969) specify an IQ of 120 as the threshold; and partial support is given by Runco and Albert (1986). Apparently, the same theory does not apply to KABC performance.

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Table 1

Means and Standard Deviations

	<u>Means</u>	<u>SDs</u>
<u>Simultaneous Processing</u>		
Spatial Memory	10.6	2.6
Gestalt Closure	10.6	3.0
<u>Sequential Processing</u>		
Number Recall	13.9	2.4
Hand Movements	10.9	2.5
<u>Achievement Scale</u>		
Faces and Places	114.5	12.6
Riddles	111.8	10.8

Table 2

Correlation Matrix

	<u>Instances</u>		<u>Uses</u>		<u>Line Meanings</u>	
	<u>F</u>	<u>O</u>	<u>F</u>	<u>O</u>	<u>F</u>	<u>O</u>
Spatial Memory	08	-05	-02	01	08	01
Gestalt Closure	-09	-11	-12	-11	-14	-08
Number Recall	-01	-09	03	09	16	09
Hand Movements	09	-02	29*	19*	18	05
Faces and Places	-10	-10	-11	-13	13	15
Riddles	09	17	03	-07	16	12

Note: F = Fluency Scores; O = Originality Scores

* $p < .05$